



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,384	03/02/2005	Sang-Hea Shim	1455-050676	1698
28289	7590	10/14/2005	EXAMINER	
THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219			CONLEY, SEAN EVERETT	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/506,384

Applicant(s)

SHIM ET AL.

Examiner

Sean E. Conley

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/6/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of group III, claims 20-23 in the reply filed on September 21, 2005 is acknowledged. Claims 1-19 have been withdrawn from consideration.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

Art Unit: 1744

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shim et al. (U.S. Patent No. 6,478,972 B1) in view of Trigianti (U.S. Patent No. 5,961,879).

Regarding claim 20, Shim et al. discloses a method of controlling the growth of microorganisms, comprising the steps of: (a) preparing stabilized alkali or alkaline earth metal hypochlorite by mixing a chlorine oxidant including alkali or alkaline earth metal hypochlorite with a stabilizer selected from the group consisting of acid amide derivatives of carbonic acids, carboxylic acids, amino acids, and sulfuric acids; (b) preparing a bromide ion source; and (c) sequentially or simultaneously introducing the stabilized alkali or alkaline earth metal hypochlorite prepared in step (a) and the bromide ion source prepared in step (b) into a habitat of microorganisms up to 0.1 to 10 ppm total halogen residual (see col. 3, line 61 to col. 4, line 15). Shim et al. further discloses that any conventional pH modifier can be added to the aqueous solution of alkali or alkali earth metal hypochlorites and includes sodium hydroxide (see col. 8, lines 53-63). Shim et al. fails to specifically teach the step of preparing a stabilized alkaline earth metal hypchlorite having a pH of at least 11.

Trigianti discloses a process for the manufacturing of a physically and chemically stable hypchlorite bleaching composition that comprises an alkali metal earth

Art Unit: 1744

hypochlorite such as sodium hypochlorite and a strong source of alkalinity such as sodium hydroxide. As a result, the composition has a pH of 10 to 14, preferably 11 to 14 and more preferably 12 to 14. It is in the alkaline range that the optimum stability and performance of the hypochlorite is obtained (see col. 6, lines 33-60; col. 4, line 62 to col. 5, line 15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Shim et al. and add the sodium hydroxide pH modifier to the aqueous solution of alkali earth metal hypochlorite as taught by Trigianti in order to prepare a physically and chemically stabilized alkaline earth metal hypchlorite composition having a pH of at least 11 which has both optimum performance on optimum stability.

Regarding claims 21 and 22, Shim et al. discloses that the stabilized hypochlorite and the bromide ion source is added to a habitat of microorganisms up to 0.1 to 10 ppm total halogen residual (see col. 4, lines 5-15).

Regarding claim 23, Shim et al. discloses that the water system is selected from the group consisting of swimming pools, spas, cooling water towers, bleaching agents, recycling water systems, and water slides (see col. 8, lines 45-53).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E. Conley whose telephone number is 571-272-8414. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 12, 2005

SEC

*[Handwritten signature]*  
S.C.

*[Handwritten signature: John Kim]*  
JOHN KIM  
SUPERVISORY PATENT EXAMINER